

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Using Confirmatory Factor Analysis to Explore Associated Factors of Intimate Partner Violence in a Sample of Chinese Rural Women: A Cross-sectional Study
<b>AUTHORS</b>	Hou, Fengsu; Cerulli, Catherine; Wittink, Marsha; Caine, Eric; Qiu, Peiyuan

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Wenjie Gong Central South University, China
<b>REVIEW RETURNED</b>	19-Sep-2017

<b>GENERAL COMMENTS</b>	<p>This manuscript addressed an important but often neglected area of study: IPV among women in rural China. It focused on the rural female population, which are very valuable not only because the population has often been neglected, but also, it's usually very difficult to collect such sensitive information from it. The authors clearly stated the literature gap, analyzed factors associated with IPV among women living in rural China, and carefully interpreted and discussed its findings. As few studies have examined IPV in this setting, this study generated important insights about IPV in rural China. Overall, I think the manuscript is worthy of publication.</p> <p>However, four areas of concerns should be addressed:</p> <p>First, as IPV is a very sensitive topic to discuss in rural China and the study was a face-to-face interview in residents' houses, the manuscript missed stating the procedures to protect participants' privacy during interview. Moreover, in the method section, the authors stated "...interviewers provided helpful IPV resources with participants ...". What exact resources did the interviewers provide?</p> <p>Second, as stated in the introduction there are several important factors associated with IPV, such as child maltreatment, marital dissatisfaction, education disparity. But those important factors were not included in the analysis.</p> <p>Third, in the confirmatory factor analysis, the authors analyzed economic factors which include subjective economic status and object economic status. However, if no classic economic theory supports the decision to analyze economic factors subjectively and objectively, exploratory factor analysis may be suitable for the analysis of this manuscript.</p> <p>At last, based on current literature, this population may not have concepts towards IPV, which probably have influence over the prevalence of IPV. The author should mention their efforts in conveying the concept to participants during CTS2S interview. If no efforts had been conducted to overcome this problem, the authors should state in the limitation.</p>
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<b>REVIEWER</b>	Outi Kanste National Institute for Health and Welfare, Finland
<b>REVIEW RETURNED</b>	12-Oct-2017

<b>GENERAL COMMENTS</b>	<p>Is the research question or study objective clearly defined? Study objective is clearly defined, but the research questions have not been specified.</p> <p>Is the abstract accurate, balanced and complete?  Title: Structural Equation Modeling is mentioned in the title, but confirmatory factor analysis is used elsewhere in the text, it's necessary to harmonize the expression  Abstract: the results could be more general or more commonly expressed, clear conclusions are missing, but the future research challenges have been identified</p> <p>Is the study design appropriate to answer the research question? Yes, the study design is well described and appropriate to answer the research questions, but the research questions have not been specified. It would also be useful to link research questions to hypotheses.</p> <p>Are research ethics (e.g. participant consent, ethics approval) addressed appropriately? Yes, research ethics issues are well described, but it's not clear whether a spouse or a family were present during the interview and the reflection of this is missing.</p> <p>Do the results address the research question or objective? Research questions are not defined, but objective has been addressed well.</p> <p>In the tables, all the abbreviations should be given explanations, in order to be reader friendly.</p> <p>Table 1: The results concerning social support could be in own table (page 28).</p> <p>Discussion: The social ecological model was used as a framework and to generate hypotheses. It would be appropriate to return to this framework systematically in the discussion section.</p> <p>On page 19, lines 9–10: the same sentence twice.</p> <p>Are the discussion and conclusions justified by the results? Conclusions are not clearly expressed or they repeat the results. Based on the results, conclusions could be drawn that go further and are more general.</p>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer 1 :

1. What exact resources did the interviewers provide?

Response: In this study, we required interviewers to orally provide advice and suggestions on coping strategies to participants who endorsed IPV, including turning to family members and friends for help, searching help from local village committee, women's federation, and civil affairs department, calling police for immediate intervention, and seeing a doctor after victimization. And we also required interviewers to explain these strategies with phrases that participants could understand. However, we did not deliver advice and suggestions through any physical materials, because we were concerned that the materials may indicate the disclosure of IPV which would irritate perpetrators. Now, we have deleted the sentence "interviewers provided helpful IPV resources with participants who endorsed IPV", instead, we added these information on Page 9 Line 10 to 18.

2. The study did not include several important factors, such as child maltreatment, marital dissatisfaction, education disparity, into analysis.

Response: We admit this is one of the limitations of the current study. As this study was part a larger epidemiological study which was focused on exploring the prevalence of distress and diagnosed psychopathology among rural women, hence we could not collect information about child maltreatment, marital dissatisfaction, education disparity as well as other factors we mentioned in Figure 1. Now we have revised point 3 in strength and limitations at Page 4 Line 6 to 7, and the limitation paragraph in discussion on Page 22 Line 12 to 14 to state this.

Despite this limitation, this study reported the prevalence of IPV against women in rural China, revealed important factors of IPV such as social support, education and economic status, analyzed the underlying structure of these factors, and estimated the strengths of relationships of observed and latent factors that were associated with IPV. These findings shed light on future research focusing on developing and implementing effective interventions again IPV among rural Chinese women.

3. If no classic economic theory supports the decision to analyze economic factors subjectively and objectively, exploratory factor analysis may be suitable for the analysis of this manuscript.

Response: As far as we know, most studies report evidence that objective economic factors including the amount of household income, the total of debt load, the stability of income flow, and women's financial contribution to their families are risk factors for male-to-female violence between intimate partners. Only few studies have explored the relationship between subjective economic status and violence against women. For example, a study reported that when women's sense of financial well-being increased one unit, the risk for experiencing IPV would decrease by 36% ( $OR=0.642$ ) (Fox, Benson, DeMaris et al. 2002). The relationship between subjective economic status and IPV can be explained by that this subjective perception indicates the adequacy of objective income, measures the family stress resulting from the adequacy, and shows impacts on the violence risk (Conger et al., 1990; Fox and Chancey, 1998; Voydanoff and Donnelly, 1988; Voydanoff, 1990). Hence, we applied confirmatory factor analysis in this study.

Reference:

Conger R D, Elder Jr G H, Lorenz F O, et al. Linking economic hardship to marital quality and instability. *Journal of Marriage and the Family*, 1990: 643-656.

Fox G L, Chancey D. Sources of economic distress: Individual and family outcomes. *Journal of family issues*, 1998, 19(6): 725-749.

Fox G L, Benson M L, DeMaris A A, et al. Economic distress and intimate violence: Testing family stress and resources theories. *Journal of Marriage and Family*, 2002, 64(3): 793-807.

Voydanoff P. Economic distress and family relations: A review of the eighties. *Journal of Marriage and the Family*, 1990: 1099-1115.

Voydanoff P E, Majka L C. Families and economic distress: Coping strategies and social policy. Sage Publications, Inc, 1988.

4. This population may not have concepts towards IPV, which probably have influence over the prevalence of IPV. The author should mention their efforts in conveying the concept to participants during CTS2S interview. If no efforts had been conducted to overcome this problem, the authors should state in the limitation.

Response: Though this population may not have concepts or definitions towards IPV, the CTS2S consists of statements about victimization experiences, and participants need to answer to the question requiring the frequencies of specific events in the past year. For example, one of the statements in CTS2S is "my partner pushed, shoved, or slapped me." Participants' answers will be categorized into eight categories, including once in the past year, twice in the past year, 3-5 times in the past year, 6-10 times in the past year, 11-20 in the past year, more than 20 times in the past year, not in the past year but it did happen before, and this has never happened. Therefore, we believed that participants did not understand or have concepts of IPV would not have influence on the report prevalence of IPV. But we did believe the prevalence was influenced by traditional culture, and this limitation was stated on Page 22 Line 17 to Page 23 Line 1.

Despite we did not need to convey the concept of IPV to participants, and the Chinese version of the CTS2S has been validated, we did need and, indeed, had interviewers to explain the statements, phrases in the CTS2S in local dialect considering local residents may not speak or understand phrases/expressions in "putonghua (mandarin)". Now we have added these efforts as well as an example of the CTS2S's statements in Method section on Page 11 Line 21 to Page 12 Line 4, and Page 12 Line 16 to 20.

Reviewer 2:

1. Is the research question or study objective clearly defined? Study objective is clearly defined, but the research questions have not been specified.

Response: Since the research objectives are the reflections of research questions, now we have revised the study objectives more clearly in the introduction on Page 7 Line 14 to 19.

2. Structuring equation modeling is mentioned in the title, but confirmatory factor analysis is used elsewhere in the text, it's necessary to harmonize the expression.

Response: We agree with the reviewer that structural equation modeling is a much more boarder concept than factor analysis (including both confirmatory and exploratory factor analysis), and it is important to be specific in scientific manuscripts. Hence, now we have harmonized the expression in the manuscript by revising the title into "Using Confirmatory Factor Analysis to Explore Associated Factors of Intimate Partner Violence in a Sample of Chinese Rural Women: A Cross-sectional Study" on Page 1 Line 1 to 2.

3. Abstract: the results could be more general or more commonly expressed, clear conclusions are missing, but the future research challenges have been identified

Response: From Page 2 Line 3 to Page 3 Line 12, we now have revised the abstract to make it more general and commonly expressed, and added clear conclusions.

4. Is the study design appropriate to answer the research question? Yes, the study design is well described and appropriate to answer the research questions, but the research questions have not been specified. It would also be useful to link research questions to hypotheses.

Response: On Page 7 Line 14 to 19, we have revised the research objectives and linked the objectives with hypotheses as stated above.

5. Are research ethics (e.g. participant consent, ethics approval) addressed appropriately? Yes, research ethics issues are well described, but it's not clear whether a spouse or a family were present during the interview and the reflection of this is missing.

Response: In the method section, we did mention that we conducted a private, face-to-face interview in participants' homes, which was not clear enough to state whether there was a third person at scene besides the participant and the interviewer. Now we have revised this statement on Page 9 Line 6 to 8.

6. Do the results address the research question or objective? Research questions are not defined, but objective has been addressed well.

Response: On Page 7 Line 14 to 19, we have revised the research objectives as stated above.

7. In the tables, all the abbreviations should be given explanations, in order to be reader friendly.

Response: Now we have added notes under tables to explain abbreviations on Page 29 Line 2 to 3, Page 30 Line 2, and Page 31 Line 2.

8. Table 1: The results concerning social support could be in own table (page 28).

Response: Now we have separated the results of social support from Table1, labeled the new tale as Table 1.2, and renamed original Table 1 as Table 1.1 on Page 29 and Page 30. We also revised related content in the results section on Page 16 Line 9.

9. Discussion: The social ecological model was used as a framework and to generate hypotheses. It would be appropriate to return to this framework systematically in the discussion section.

Response: We agree with the reviewer that it could be more appropriate to structure the discussion based on the socio-ecological model; however, in this study, we only analyzed factors that from personal level and interpersonal level, and only found significant relationship between IPV and social support, objective economic status and education. Hence, we structured the discussion based on the importance of these factors, and did not reframe the discussion based on socio-ecological model.

10. On page 19, lines 9–10: the same sentence twice.

Response: Now we have deleted the repeated sentence on Page 20 Line 12.

11. Are the discussion and conclusions justified by the results? Conclusions are not clearly expressed or they repeat the results. Based on the results, conclusions could be drawn that go further and are more general.

Response: Now, we have revised both conclusion section in the abstract and main manuscript on Page 3 Line 8 to 12, and Page 23 Line 4 to 13.

Other revisions:

1. We adjusted the paragraph's format on Page 15 Line 15.

2. We now move the sentence "of noted, a 'city' in China is most often comprised of multiple regions including counties, towns, villages, and rural areas; and Guangyuan region, especially its rural towns and villages in mountainous areas, has been stricken by the Wenchuan earthquake in 2008" to Page 8 Line 6 to 9.

3. We now have revised the discussion about the comparison between our findings and other studies in China on Page 19 Line 5 to 8.

4. We now have corrected a mistake in Table 4 on Page 33.

5. In order to be more precise and consistent in the manuscript, now we have unified our expressions towards time period “in the past 12 months” and “in the past/previous year” cross the manuscript as “in the past 12 months”.

6. Now we have moved the two figures in the main document into separate JPG files.

7. Now we have changed the Appendix 1 into Supplementary Appendix 1 on Page 13 Line 13; and we also have transformed the appendix file into a PDF file.

8. References 51 to 54 are cited in the manuscript and are cited in ascending order.

Reference 51 is cited on Page 22 Line 3; reference 52 is cited on Page 22 Line 6; references 53 and 54 are cited on Page 22 Line 20.

9. We have updated the word count of the manuscript. It is 4495 words now.

## **VERSION 2 – REVIEW**

<b>REVIEWER</b>	Outi Kanste National Institute for Health and Welfare Finland
<b>REVIEW RETURNED</b>	07-Nov-2017
<b>GENERAL COMMENTS</b>	My global opinion is that this article is interesting and useful. The authors have made the proposed changes and corrections carefully to the manuscript. The article has been written carefully and it is quite readable for the global reader. It is likely to interest an international audience. I hope all the best for this interesting manuscript.

## **VERSION 2 – AUTHOR RESPONSE**

3. Reviewer: My global opinion is that this article is interesting and useful. The authors have made the proposed changes and corrections carefully to the manuscript. The article has been written carefully and it is quite readable for the global reader. It is likely to interest an international audience. I hope all the best for this interesting manuscript.

Response: We sincerely appreciate the reviewers comments, and we do not revise the manuscript based reviewer's comments.

Finally, we resubmitted the clean version and the MS tracked version in the system.